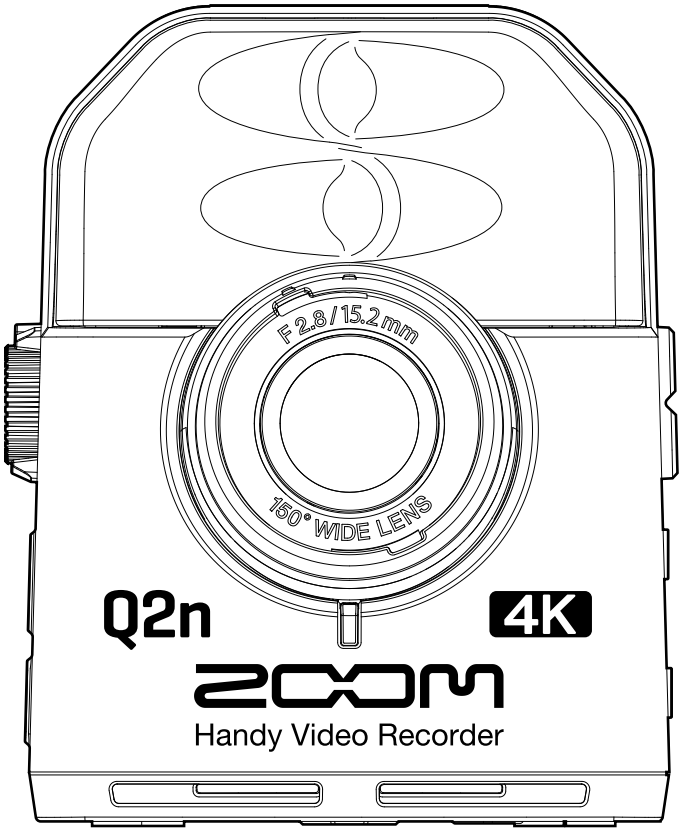
Q2n-4K

Handy Video Recorder



Operation Manual

You must read the Usage and Safety Precautions before use.

This document cannot be displayed properly on black-and-white displays.

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Operation Manual overview

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Introduction

Thank you very much for purchasing a ZOOM Q2n-4K Handy Video Recorder (hereafter, "Q2n-4K"). The Q2n-4K has the following features.

Capture the immediacy of live performances in both audio and video

Using the wide angle lens, you can record video even when close to the subject. With the XY format condenser mic that has excellent sound pressure resistance, you can record even clearer stereo images at high resolutions up to 24-bit/96 kHz.

Record fine video details

By recording with 4K resolution, you can capture images that are four times as detailed as full HD.
With ultra-high-resolution technology, clarity is not lost even when changing viewing angles.

Capture extreme lighting changes beautifully

Incorporating high dynamic range (HDR) technologies enables video recording of live performances with extreme lighting changes that avoids undersaturation and oversaturation.

Scene settings for a wide range of filming conditions

Along with settings good for recording live performances, monochrome and sepia special effect settings as well as a flat setting ideal for color matching have been added.

Easy live streaming

Connect to a computer and use the web camera function to easily set up a live streaming system with high audio and video quality.

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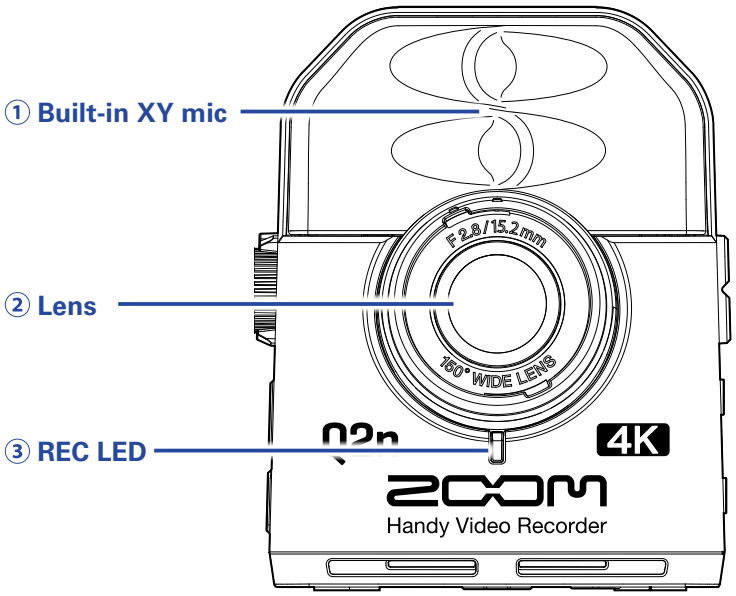
Names of parts

■ Front



① Built-in XY mic

The two crossing directional mics can record a three-dimensional sound with natural depth and width.

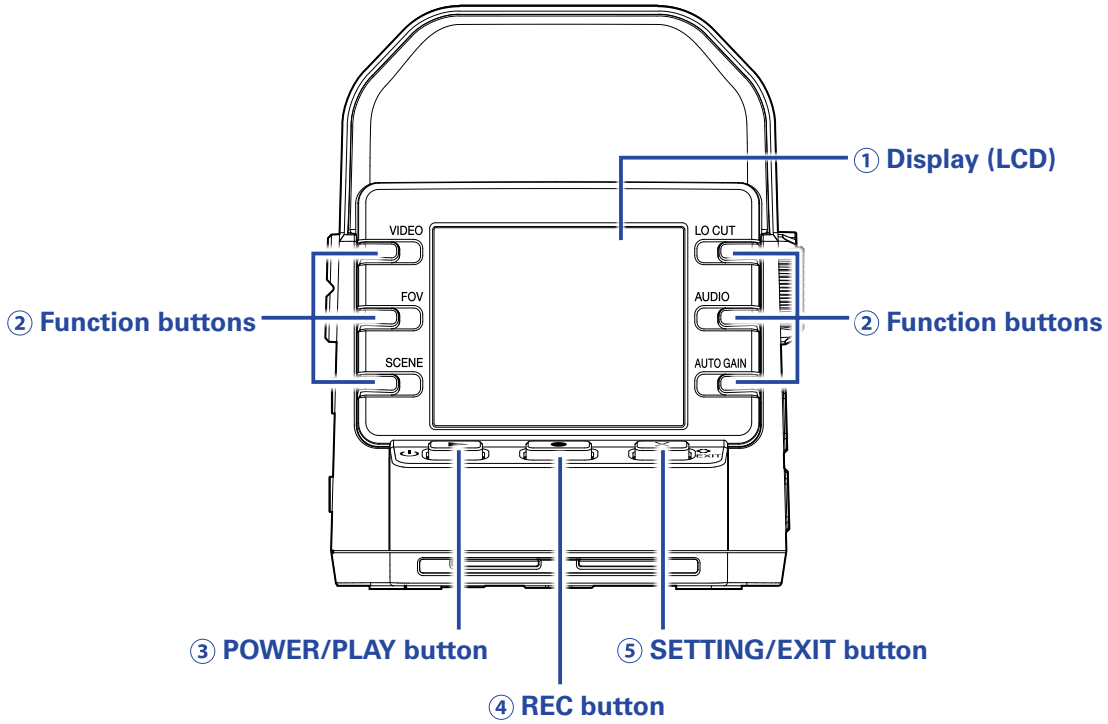
② Lens

This lens has an F2.8 brightness and 150° wide angle.

③ REC LED

This LED shows the recording status. It lights red during recording.

Back



① Display (LCD)

This shows the video and various types of information.

② Function buttons

Use these to operate the functions shown on the display.

③ POWER/PLAY button

Use this to turn the power ON/OFF and to start video playback.

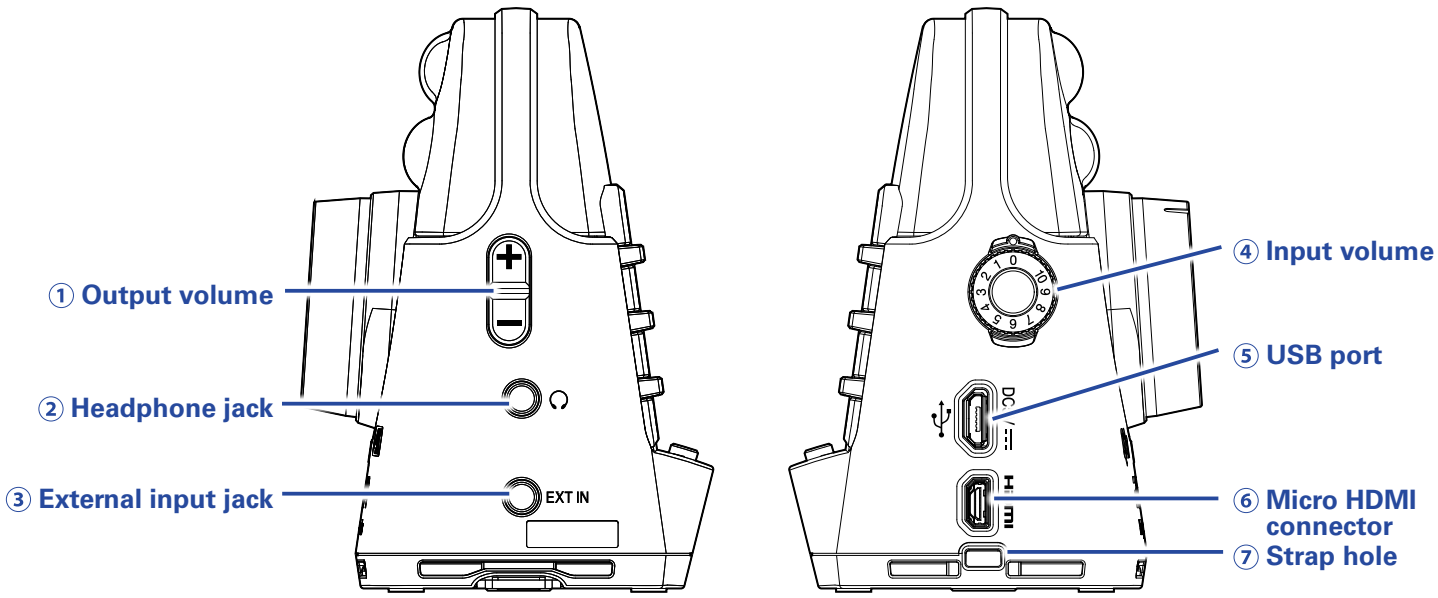
④ REC button

Use this to start and stop recording. Use this to confirm on setting and confirmation screens.

⑤ SETTING/EXIT button

Use this to open and close the Setting Screen. Use this to cancel on setting and confirmation screens.

Sides



① Output volume control

Use to adjust the output volume.

② Headphone jack

This outputs sound to headphones or a connected device.

③ External input jack

Use this to input sound from a connected device.

④ Input volume dial

Use to adjust the recording level.

⑤ USB port

Connect this to a computer or iOS device to use as a web camera, card reader or USB mic.

The dedicated AC adapter (ZOOM AD-17) can also be connected here to use AC power.

⑥ Micro HDMI connector

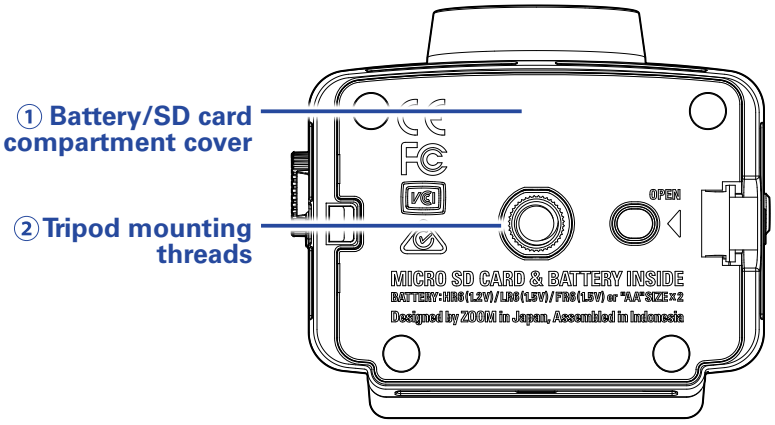
This can output video and audio to an HDMI-compatible TV or other device.

⑦ Strap hole

A strap can be attached to help prevent dropping.

Attaching the included lens cap to a strap could help prevent loss.

Bottom


① Battery/SD card compartment cover
② Tripod mounting threads
OPEN
MICRO SD CARD & BATTERY INSIDE
BATTERY: HR6 (1.2V) / LR6 (1.5V) / FR6 (1.5V) or "AA" SIZE × 2
Designed by ZOOM in Japan, Assembled in Indonesia

① Battery/SD card compartment cover

Remove when installing batteries and microSD cards.

② Tripod mounting threads

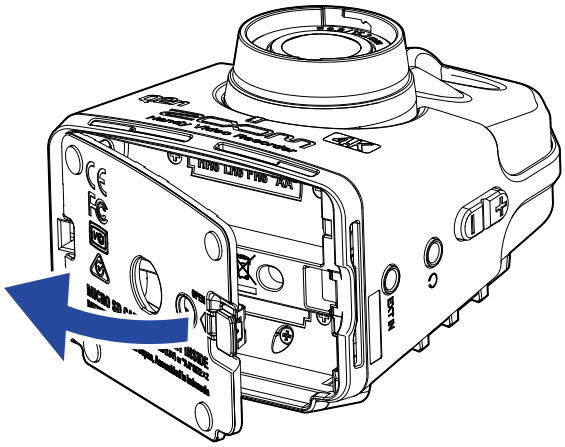
Use these screw threads to attach a tripod (not included).

Preparations

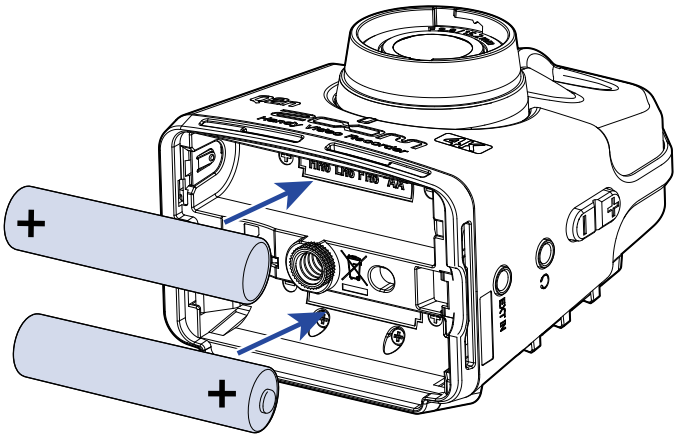
Supplying power

Using batteries

1. Open the battery/card compartment cover.



2. Install the batteries.



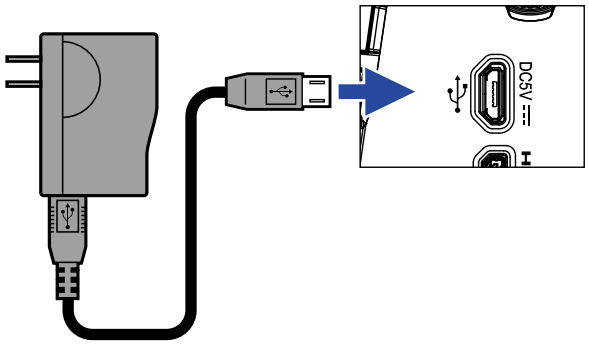
AA batteries

3. Close the battery/card compartment cover.

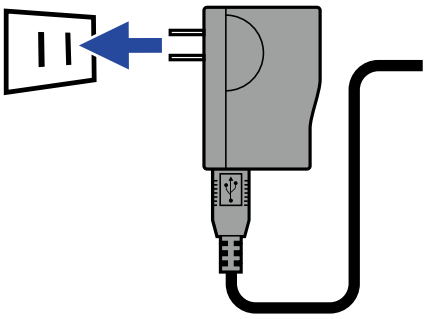
NOTE
After installing batteries, set the correct battery type. (→ “Setting the type of battery used” on page 41)

Using an AC adapter

1. Connect the cable of an AD-17 AC adapter to the USB port.



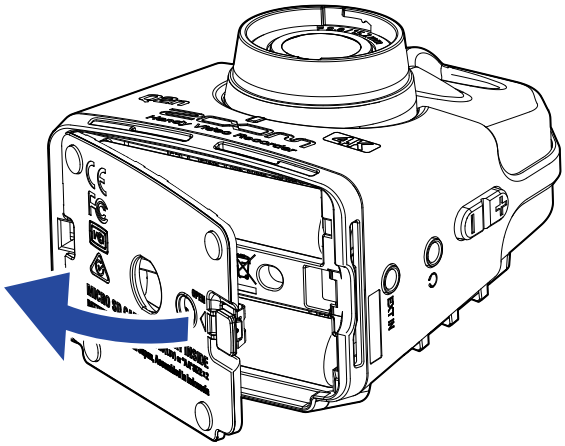
2. Plug the AC adapter into an outlet.



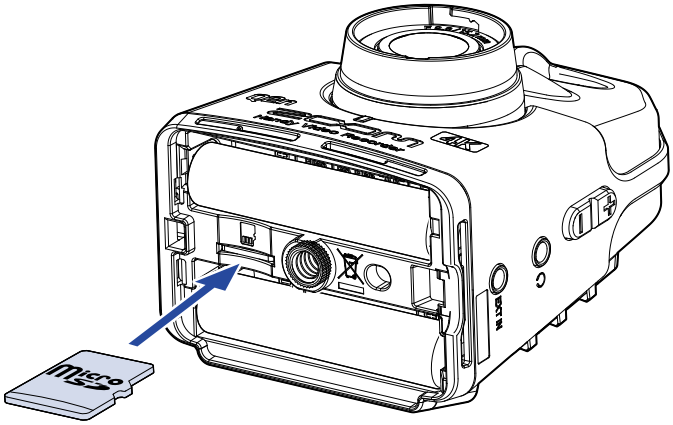
HINT
When connected to a computer, power can be supplied by USB.

Inserting microSD cards

1. Open the battery/card compartment cover.



2. Insert the microSD card into the card slot.



microSD card

To remove a microSD card, push it further into the slot and then pull it out.

3. Close the battery/card compartment cover.

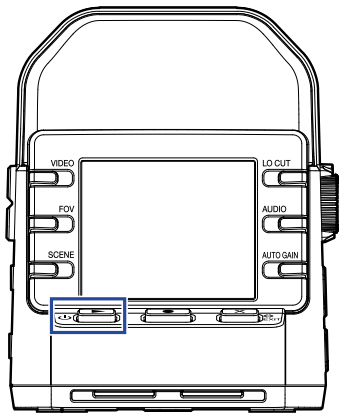
NOTE

- Always make certain that the power is off when inserting or removing a microSD card. Inserting or removing a card while the power is on could result in data loss.
- When inserting a microSD card, be sure to insert the correct end with the top side up as shown.
- After purchasing a new microSD card, always format it using the Q2n-4K to maximize performance.
  To format a microSD card, see "Formatting microSD cards" on page 53.
- Use a microSD card that is Class 10 or higher.
  When recording at 4K resolution, use as microSD card that is UHS Speed Class 3 or higher.

Turning the power on/off

Turning the power on

1. Press and hold ⏻ (►).



After startup completes, the REC LED on the front will light green and the Recording Screen will appear on the display.

HINT

To turn the power off, keep pressing ⏻ (►) until "Goodbye See You!" appears on the display.

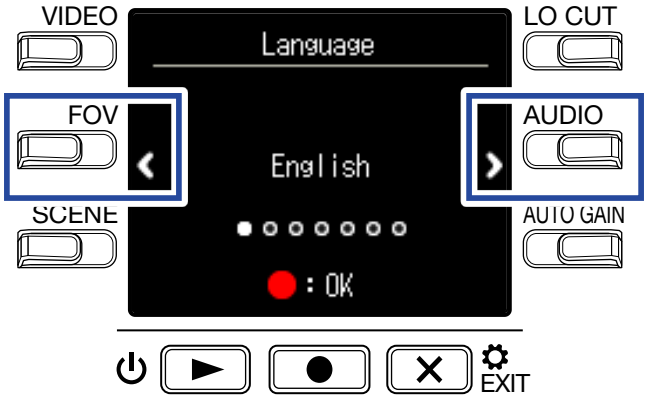
Setting up when first turned on

The first time the Q2n-4K is turned on, the display language and the date and time must be set.

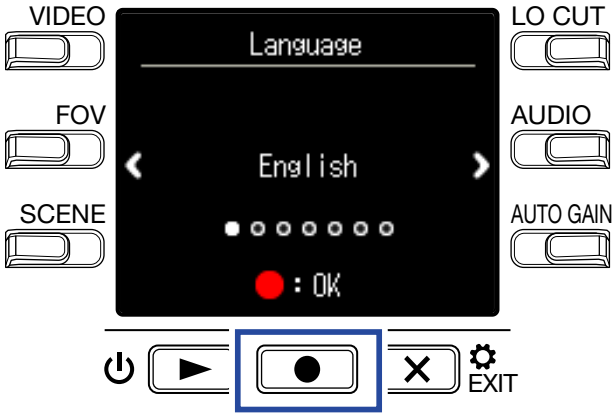
> **HINT**
> Language display and date and time settings can be changed later on the Setting Screen. (→ "Setting the language shown" on page 52, "Setting the date and time" on page 47)

Setting the language shown

1. Use **<** and **>** to select the language displayed.

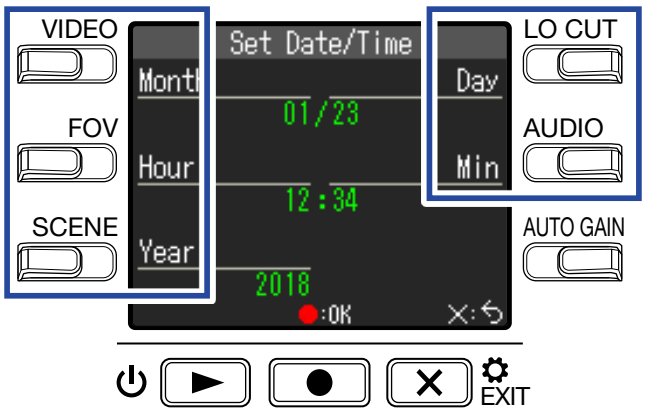


2. Press ● to confirm.

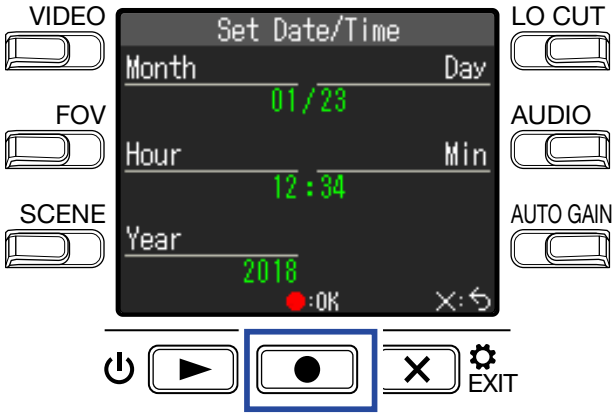


Setting the date and time

1. Press the button for the item to be set.



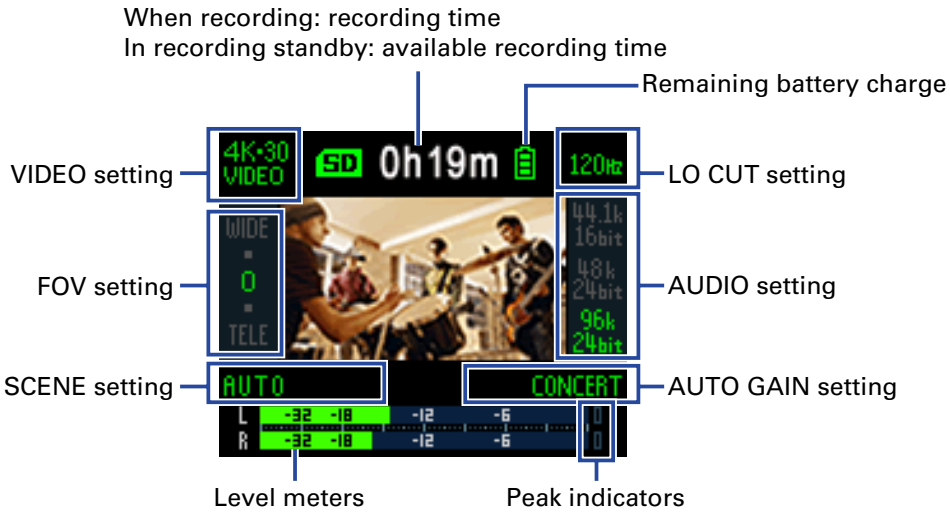
2. Press ● to confirm.



Recording

Recording Screen overview

The Recording Screen opens when the power is turned on.



HINT

If the power is turned on when connected to a computer, the USB function selection screen will open. (→ "Turning the power on when connected to a computer" on page 37)

Making video recording settings

Use the buttons on both sides of the display to change settings.

Setting the video quality

The video quality (resolution) and frame rate per second can be set.

1. Press VIDEO on the Recording Screen to set the video quality.

Setting	Resolution	Frames/ second	Explanation	File size
4K·30 VIDEO	3840×2160	30	Record 4K video quality. Use when video quality is the top recording priority.	Large ↑
4K·24 CINEMA	3840×2160	24	Record 4K video quality. Record with the frame rate used for filming movies. This is good for recording movies and music videos.	
1080·60 SMOOTH	1920×1080	60	Use when you want to record subjects that move quickly.	
1080·30 VIDEO	1920×1080	30	This is suitable for all kinds of video recording.	
1080·24 CINEMA	1920×1080	24	Record with the frame rate used for filming movies. This is good for recording movies and music videos.	
720·30 VIDEO	1280×720	30	This is good when you want to balance recording time with video quality.	
CAMERA OFF	–	–	Use this to only record audio.	↓ Small

HINT

The standard frame rate can also be set for the regional video format. (→ "Setting the standard frame rate" on page 51)

Setting the field of view

This sets the field of view (FOV) for videos.

1. Press FOV on the Recording Screen to set the field of view.

Setting	Explanation	Distortion correction
WIDE	This widens the field of view.	—
.	↑	✓
0		✓
.	↓	✓
TELE	This narrows the field of view.	✓

Setting the scene type

This sets the camera settings for the recording conditions (scene).

1. Press SCENE on the Recording Screen to set the scene type.

Setting	Explanation
AUTO	Settings change according to the recording conditions.
OUTDOOR	Settings are optimized for outdoor recording.
SUNSET	Settings are optimized for sunset scenes.
NIGHT	Adjustments are made for night and other dark situations.
CONCERT LIGHT	Settings are suitable for concert lighting that is bright and changes drastically.
JAZZ CLUB	Settings are suitable for jazz clubs and similar venues.
DANCE CLUB	Settings are suitable for dance clubs and venues where lighting changes drastically.
MONOCHROME	Recording is processed to be like black and white film.
SEPIA	Recording is processed with a sepia tone.
FILM	Recording is processed to be like film.
X-PROCESS	A cross-processing effect is applied.
FLAT	This is suitable for color matching with other cameras in post-processing.

Setting low-frequency noise reduction

The low-cut filter can be set to reduce the sound of wind, vocal pops and other noise.

1. Press LO CUT on the Recording Screen to set the low-frequency noise reduction.

Setting	Explanation
OFF	Low-frequency noise reduction is disabled.
80 Hz	These set the cutoff frequency.
120 Hz	
160 Hz	

NOTE
The higher the cutoff frequency is set, the stronger the low-frequency noise reduction effect will be. Since this also affects other low-frequency sounds, though, check the effect while you are making this setting.

Setting the audio quality

This sets the sampling frequency (kHz) and bit rate.

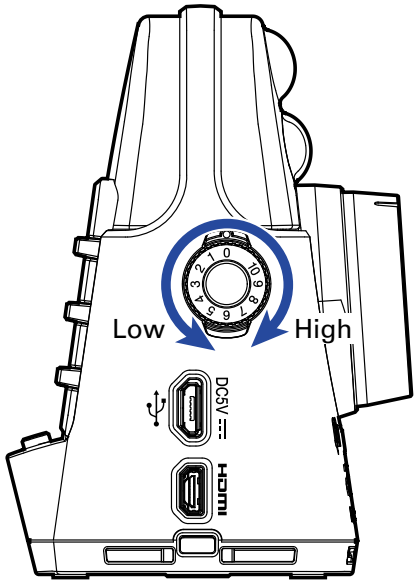
1. Press AUDIO on the Recording Screen to set the audio quality.

Setting	Explanation	Audio quality	File size
44.1 kHz/16-bit	The higher the sampling frequency (kHz) and bit rate are set, the better the audio quality will be.	↑ Low	↑ Small
48 kHz/24-bit			
96 kHz/24-bit		↓ High	↓ Large

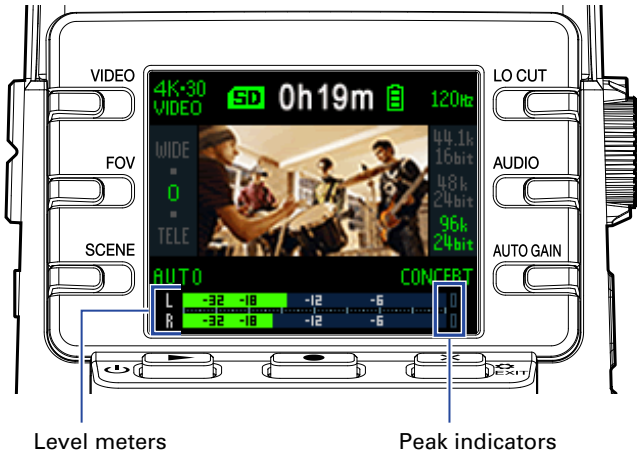
Adjusting recording levels

Adjusting levels manually

1. Turn to adjust the recording level.



Adjust so that the level meters are around –12 dB with the loudest sounds.



NOTE

- The peak indicators light and the REC LED on the front blinks when loud sounds are input.
- Recording when the indicators are lit could cause the sound to become distorted. Lower the input volume to avoid this.
- If the sound distorts even when you lower the input volume, try changing mic positions and adjusting the output levels of connected devices.

HINT

To clear the peak indicators, press [X] EXIT to open the Setting Screen once.

Using automatic level adjustment

The recording level can be adjusted automatically according to the use conditions.

1. Press AUTO GAIN on the Recording Screen to set the automatic gain adjustment.

Setting	Explanation
OFF	This disables automatic level adjustment. Adjust the recording level manually.
CONCERT	This is suitable for recording band performances, concerts and other loud situations.
SOLO	Use for solo performances and other quiet sounds.
MEETING	Use for meetings and field recordings.

NOTE

When automatic gain adjustment is in use, manual adjustments cannot be made using .

Recording

Recording video

1. Press ●.

This starts video recording.

2. Press ● again to stop video recording.

NOTE

- The energy saving function will make the screen dim during recording. (→ "Setting the display backlight time" on page 43)
- During video recording, the REC LED on the front lights red.
- If the internal temperature of the Q2n-4K rises during use, a warning message will appear and it will turn off automatically. Wait for the temperature to decrease before using it again.
- By connecting an HDMI-compatible TV or other device, you can monitor the video and audio during recording. (→ "Viewing on an HDMI-compatible TV" on page 30)
- The maximum resolution of HDMI output is 1920×1080 when recording.
- When recording video, connecting or disconnecting an HDMI cable will cause video and audio recording to stop.

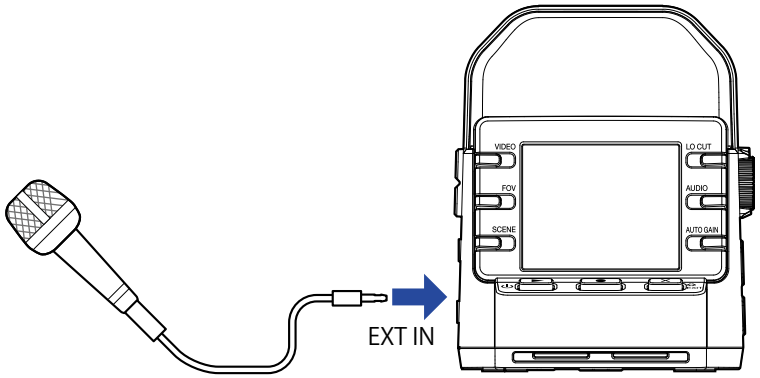
HINT

When recording for long periods of time with a microSDHC card, recording files will be split after 4 GB. When using a microSDXC card, recording will continue in one file even if the file size exceeds 4 GB.

Connecting external input devices

You can capture audio with an external mic or audio device when recording video or audio.

1. Connect the external mic or audio device to the external input jack.



NOTE

The built-in mics are disabled when an external device is connected to the external input jack.

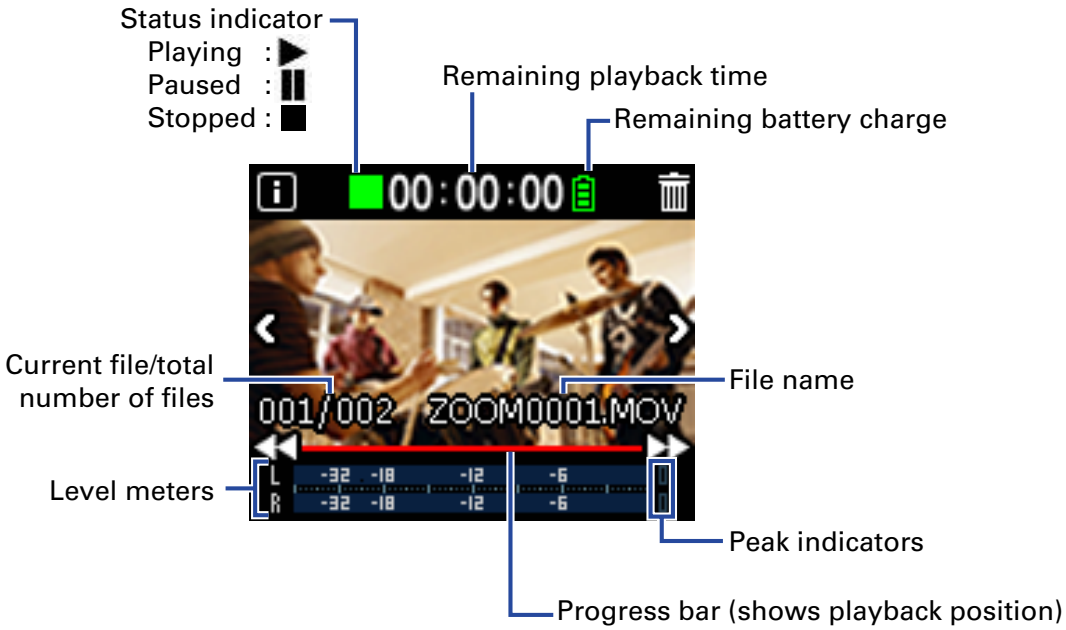
HINT

- This jack can provide plug-in power to mics that use it. (→ "Using mics that support plug-in power" on page 50)

Playing recordings

Playback Screen overview

From the Recording Screen, press ⏻ ▶ to open the Playback Screen.



Playing recordings

1. Press ⏻ ▶ on the Recording Screen.

Playback of the last recorded file or the most recently played file will start.

NOTE

- The Q2n-4K can only play videos that it recorded.

2. Press ✕ EXIT to stop playback and reopen the Recording Screen.

Playback operations

The following operations are possible during playback.

Changing the playback position

Pause/resume	Press ⏻ ▶
Search forward	Press and hold ⏩
Search backward	Press and hold ⏪

Selecting files

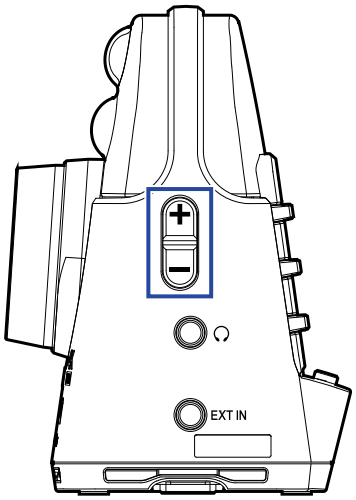
Move to next file	Press ⏭
Move to previous file	Press ⏮

Playing files continuously

Playback can be set so that after playback of one file completes the next file can be played back without stopping. (→ “Enabling continuous playback” on page 49)

Adjusting the output volume

1. Use to adjust the volume.



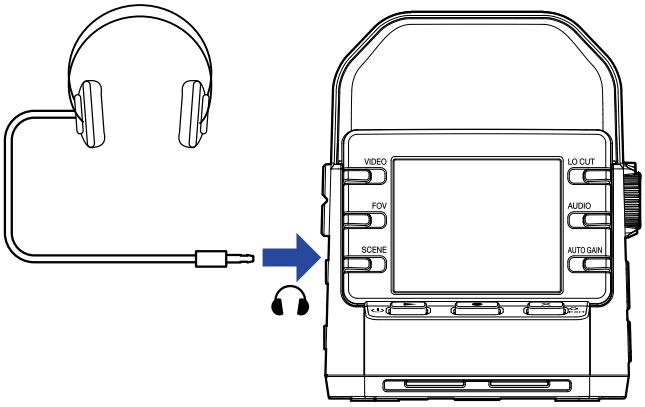
HINT

- The volume can be adjusted separately for the speaker and headphones.
- The volume can be set from 0 to 30.

Headphone/line output

You can listen to the audio with headphones or an external audio amplifier.

1. Connect headphones or audio equipment to the headphone jack using a stereo mini plug cable.



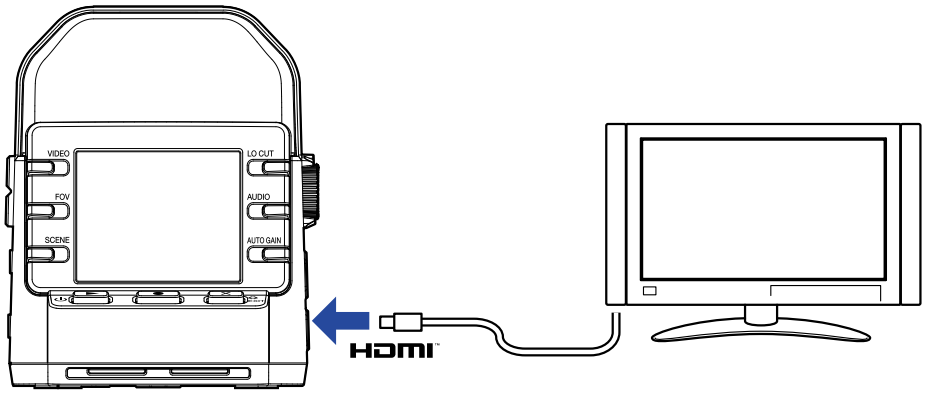
HINT

When the Recording Screen is open, you can monitor the input sound.

Viewing on an HDMI-compatible TV

Use an HDMI cable to connect with an HDMI-compatible TV to view Q2n-4K video recordings on it.

1. Connect an HDMI cable (not included) to the Micro HDMI connector.



2. Press ⏻ ► to play the video and audio.

The display on the recorder will turn off and the recorded file will play on the TV screen.

HINT

The recorder can be operated while outputting to a TV. (→ "Playback operations" on page 27)

NOTE

- During TV output, file information cannot be shown and files cannot be deleted.
- Some TVs do not support some audio formats, so correct playback might not always be possible.

Managing files

Checking file information

You can view a variety of information about the current playback file.

1. Press [i] on the Playback Screen.

This shows information about the current playback file.

Information about the duration, size, date, time, video and audio can be checked.

2. Press [i].

This reopens the Playback Screen.

Deleting files

You can delete files that you do not need.

1. Press 🗑 on the Playback Screen.

The deletion screen will open.

2. Press ☑ to select a file.

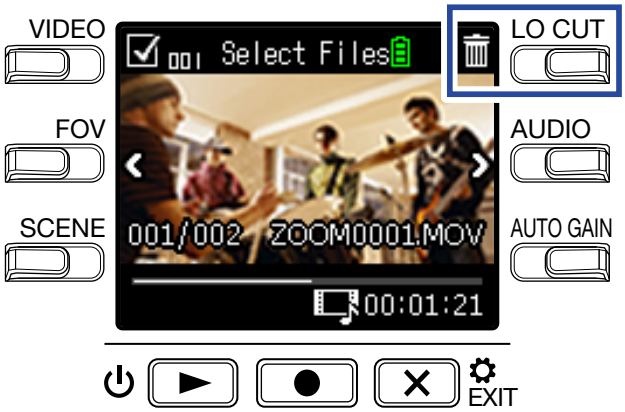
A check will appear in the box at the top left of the file image.

HINT

You can use < and > to change files and add checks to multiple files.

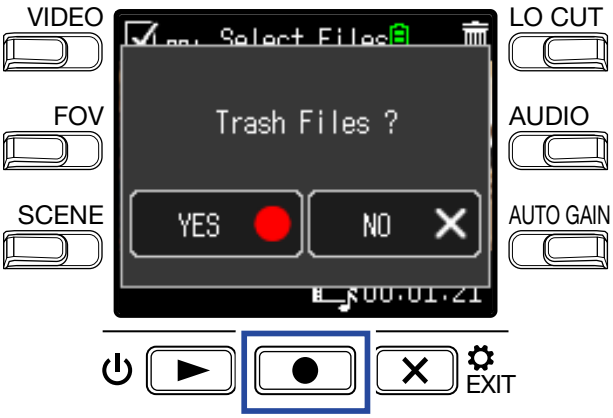
---

3. Press 🗑.



This opens a deletion confirmation screen.

4. Press ● to select **Yes ●**.



The checked files will be deleted.

To cancel deletion, press ✕ EXIT to select **No ×**.

Using USB functions

Connecting to computers and iOS devices

Use a USB cable to connect to a computer or iOS device and use the recorder as a web camera, card reader or USB mic.

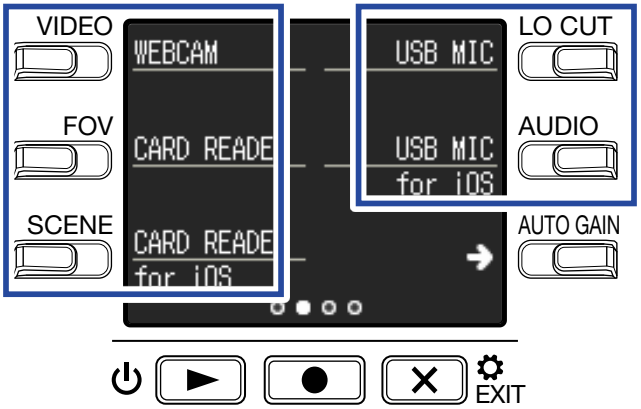
1. Press ✕ EXIT on the Recording Screen.

This opens the Setting Screen.

2. Press →.

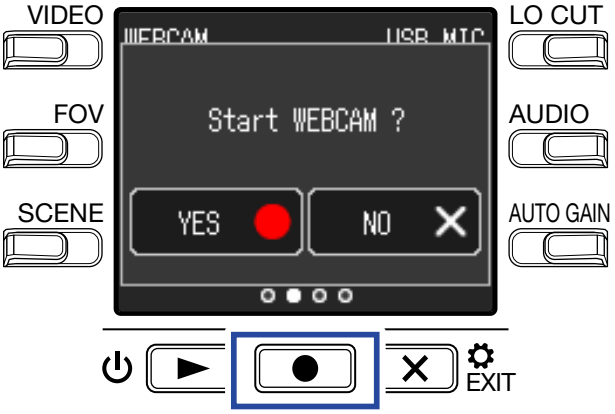
This opens the USB Connection Setting Screen.

3. Press the button for the function to be used.



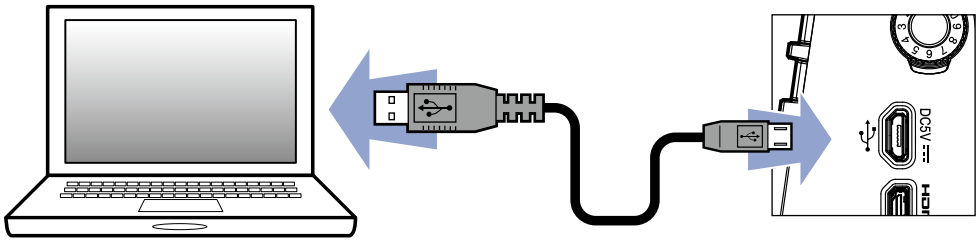
Function	Explanation
WEB Camera	Use as a web camera with a computer (→ "Using as a web camera" on page 38)
Card Reader	Use as an SD card reader with a computer (→ "Using as a card reader" on page 39)
Card reader for iOS	Use as an SD card reader with an iOS device (→ "Using as a card reader" on page 39)
USB Mic	Use as a USB mic with a computer (→ "Using as a USB mic" on page 40)
USB Mic for iOS	Use as a USB mic with an iOS device (→ "Using as a USB mic" on page 40)

4. Press ● on the Confirmation Screen to select **Yes** ●.



This activates the selected function.

5. Use a USB cable to connect a computer or iOS device.



6. To end use, press [EXIT] on any function screen.

7. Press [●] on the Confirmation Screen to select **Yes** ●.

This reopens the Recording Screen.

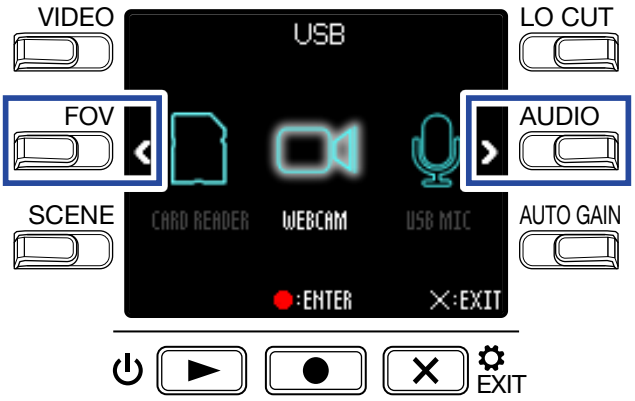
NOTE

- When connected to a computer, power can be supplied by USB.
- When connected to an iOS device, use batteries because power cannot be supplied by USB.
- A list of iOS devices that have been confirmed to work with this unit can be checked at www.zoom.co.jp.
- An iPad Camera Connection Kit or Lightning to USB Camera Adapter (not included) is necessary to connect to an iOS device.

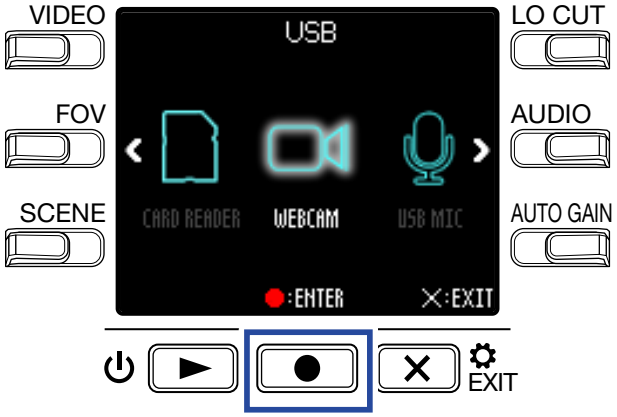
Turning the power on when connected to a computer

If the Q2n-4K power is turned on when connected to a computer, the USB function selection screen will open.

1. Use **<** and **>** to select the function to use.



2. Press ● to confirm.



3. Press ● on the Confirmation Screen to select **Yes** ●.

This activates the selected mode.

Press × EXIT to open the Recording Screen.

Using as a web camera

The Q2n-4K can be used as a web camera to input audio and video to a computer.

1. Connect the Q2n-4K with a computer.

(→ "Connecting to computers and iOS devices" on page 34)

NOTE
Web camera use is not possible with an iOS device.

2. Launch an application that uses a camera on the computer, and select the Q2n-4K.

NOTE
- The recorder can simultaneously transmit video and audio with resolutions up to 720 p HD and 48 kHz/16-bit to a computer.
- The Q2n-4K cannot output computer playback signals

HINT
Refer to the manual for the application that you are using for the procedures to select the Q2n-4K.

3. To end the connection, conduct the necessary disconnection procedures on the computer.

Compensating for lags between video and audio

If a timing difference occurs between the video and audio when using the recorder as a web camera, you can set an audio delay time so that it matches the timing of the video.

1. During web camera use, press **DELAY**.

Press **DELAY** again repeatedly to lengthen the audio delay time.

Setting	Explanation
0.0 F	The delay time can be set in increments of 0.5 F. (1 F is 33 msec.) The maximum delay time is 10.0 F (330 msec).
↕	
10.0 F	

Using as a card reader

The Q2n-4K can be used as a card reader to read and write data from computers and iOS devices.

1. Connect the Q2n-4K to a computer or iOS device.
   (→ "Connecting to computers and iOS devices" on page 34)
2. Open a file management screen on the computer or iOS device and show the contents of the microSD card in the Q2n-4K.
3. Work with the files on the microSD card.
4. To end the connection, conduct the necessary disconnection procedures on the computer or iOS device.

   HINT
   Refer to the manual for the computer or iOS device that you are using for detailed operation procedures.

5. Press ✕ EXIT.
6. Press ● on the Confirmation Screen to select **Yes** ●.
   This reopens the Recording Screen.

Using as a USB mic

The Q2n-4K can be used as a USB mic to input audio to a computer or iOS device.

1. Connect the Q2n-4K to a computer or iOS device.
   (→ "Connecting to computers and iOS devices" on page 34)
2. Launch an application that uses a mic on the computer or iOS device, and select the Q2n-4K.

   HINT

   Refer to the manual for the application that you are using for the procedures to select the Q2n-4K.
3. To end the connection, conduct the necessary disconnection procedures on the computer or iOS device.

Enabling direct monitoring

The input sound can be monitored directly during USB mic use.

1. During USB mic use, press **DIRECT MNTR**.

   This turns direct monitoring ON/OFF.

Battery settings

Setting the type of battery used

Set the type of battery used so that the amount of remaining battery charge can be accurately displayed.

1. Press EXIT on the Recording Screen.

This opens the Setting Screen.

2. Press → three times to change the Setting Screen.

3. Press **Battery Type** to set the type of battery used.

The options are **Alkaline**, **Ni-MH** and **Lithium**.

4. Press EXIT.

This reopens the Recording Screen.

Enabling energy saving

Setting the display backlight time

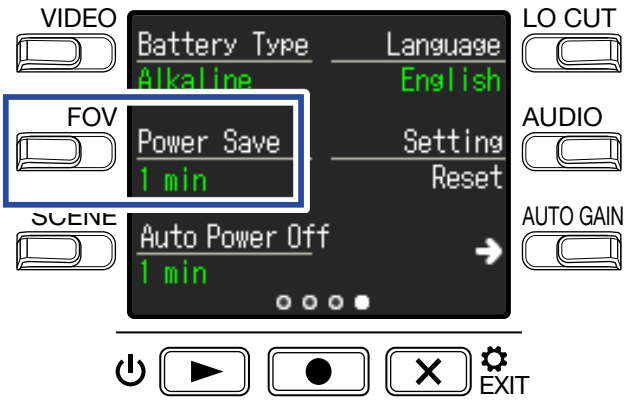
Power can be saved by shortening the amount of time that the backlight stays lit.

1. Press EXIT on the Recording Screen.

This opens the Setting Screen.

2. Press → three times to change the Setting Screen.

3. Press **Power Save**, and set the time until the backlight dims.



Setting	Explanation
Off	The backlight always stays bright.
1 min	The backlight dims if no operation occurs for 1 minute.
3 min	The backlight dims if no operation occurs for 3 minutes.
5 min	The backlight dims if no operation occurs for 5 minutes.

4. Press EXIT.

This reopens the Recording Screen.

Setting the Auto Power Off function

Set to turn off automatically if not used at all for a set amount of time when running on battery power.

> **NOTE**
> This function is disabled during recording and playback as well as when it is powered through its USB port.

1. Press EXIT on the Recording Screen.

This opens the Setting Screen.

2. Press → three times to change the Setting Screen.

3. Press **Auto Power Off**, and set the time until the power turns off.

Setting	Explanation
Off	The Auto Power Off function is disabled.
1 min	The power will turn off automatically 1 minute after the last operation.
3 min	The power will turn off automatically 3 minutes after the last operation.
5 min	The power will turn off automatically 5 minutes after the last operation.

4. Press ✕ EXIT.

This reopens the Recording Screen.

Setting the date and time

If the date and time are set, the recorder can add the recording date and time to files.

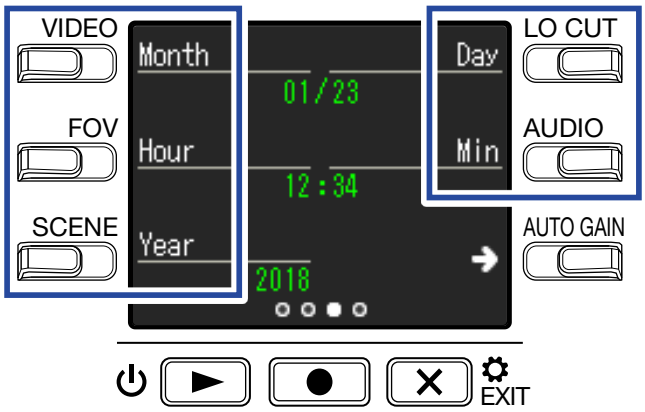
1. Press ✕ EXIT on the Recording Screen.

This opens the Setting Screen.

2. Press → two times to change the Setting Screen.

This opens the Date and Time Setting Screen.

3. Press the button for the item to be set.



4. Press ✕ EXIT.

This reopens the Recording Screen.

Setting the volume of the operation sound

Set the volume of the Q2n-4K operation sound.

1. Press EXIT on the Recording Screen.

This opens the Setting Screen.

2. Press **Beep**, and set the volume.

Setting	Explanation
	No operation sound is output.
	A low-volume operation sound is output.
	A high-volume operation sound is output.

3. Press EXIT.

This reopens the Recording Screen.

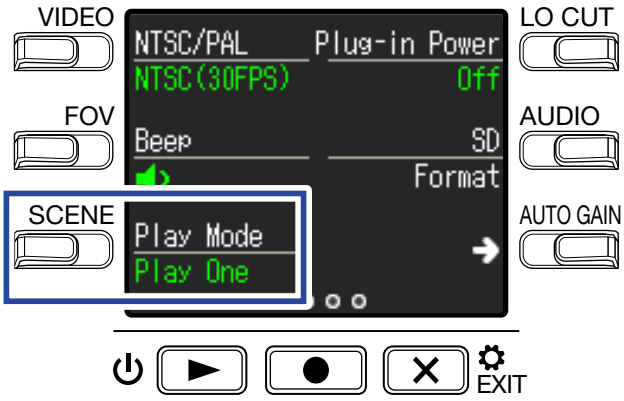
Enabling continuous playback

Playback can be set so that after playback of one file completes the next file can be played back without stopping.

1. Press EXIT on the Recording Screen.

This opens the Setting Screen.

2. Press **Play Mode**, and set whether continuous playback is enabled.



Setting	Explanation
Play One	Playback stops after one file completes playing.
Play All	After one file completes playing, the next file plays back without stopping. Files will play back in the order of the time they were recorded. Playback will stop after the most recent file completes playing.

3. Press EXIT.

This reopens the Recording Screen.

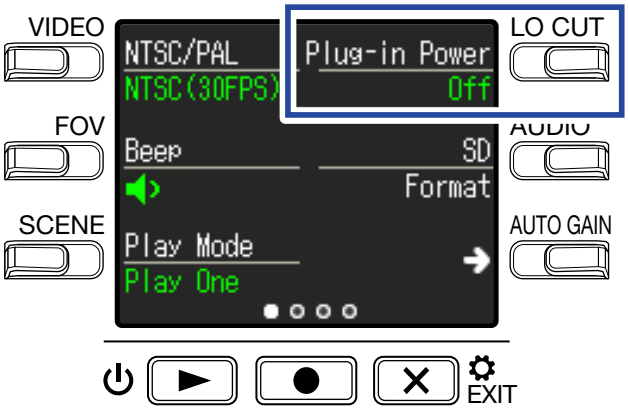
Using mics that support plug-in power

Enable plug-in power from the Q2n-4K for mics that support it.

1. Press EXIT on the Recording Screen.

This opens the Setting Screen.

2. Press **Plug-in Power** and set it to **On**.



3. Press EXIT.

This reopens the Recording Screen.

Setting the standard frame rate

This sets the standard recording frame rate used according to the regional video format.

1. Press EXIT on the Recording Screen.

This opens the Setting Screen.

2. Press **NTSC/PAL** to set the standard frame rate.

Setting	Explanation
NTSC (30 FPS)	The standard frame rate for the NTSC format is used for recording.
PAL (25 FPS)	The standard frame rate for the PAL format is used for recording. The VIDEO setting options will change to **4K·25 VIDEO**, **1080·50 SMOOTH**, **1080·25 VIDEO** and **720·25 VIDEO**.

3. Press EXIT.

This reopens the Recording Screen.

Setting the language shown

Set the language shown on the display.

1. Press EXIT on the Recording Screen.

This opens the Setting Screen.

2. Press → three times to change the Setting Screen.

3. Press **Language**.

This changes the display language.

4. Press EXIT.

This reopens the Recording Screen.

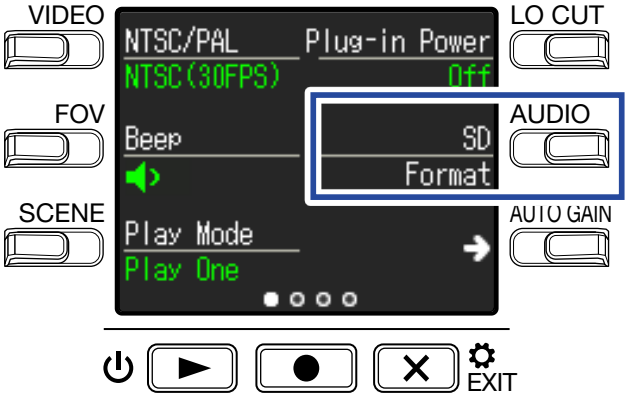
Formatting microSD cards

To maximize the performance of a microSD card, use the Q2n-4K to format it.

1. Press EXIT on the Recording Screen.

This opens the Setting Screen.

2. Press **SD Format**.



This opens a formatting confirmation screen.

3. Press ● to select **Yes** ●.

This will start microSD card formatting.

“Done" will appear on the display when formatting completes.

NOTE

- After purchasing a new microSD card, always format it using the Q2n-4K.
- All data previously saved on the microSD card will be deleted when it is formatted.

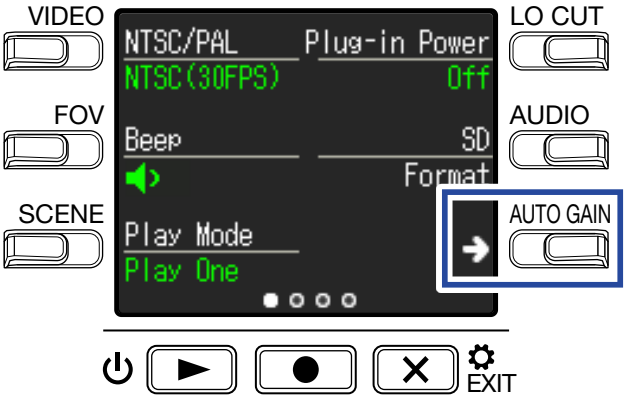
Restoring factory default settings

You can restore all **Q2n-4K** settings to their factory defaults.

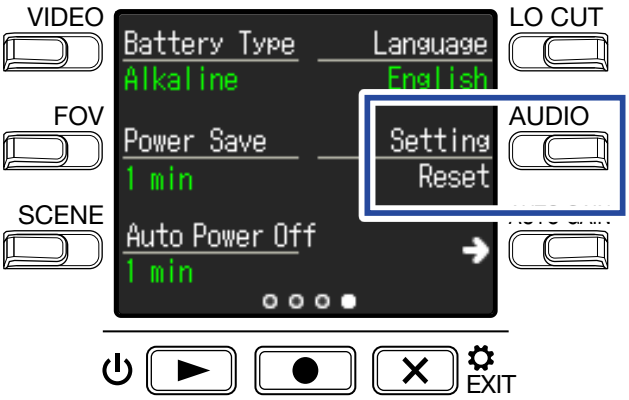
1. Press EXIT on the Recording Screen.

This opens the Setting Screen.

2. Press → three times to change the Setting Screen.

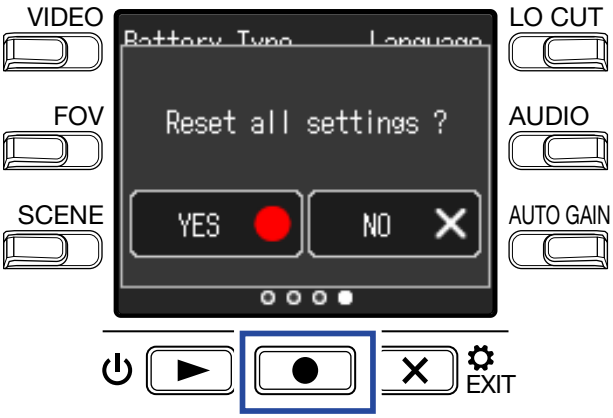


3. Press **Setting Reset**.



This opens a reset confirmation screen.

4. Press ● to select **Yes** ●.



This starts resetting the **Q2n-4K**.

After resetting completes, the power will automatically turn off.

Updating the firmware

The Q2n-4K firmware can be updated to the latest versions.

1. Install new batteries in the Q2n-4K or connect an AC adapter.

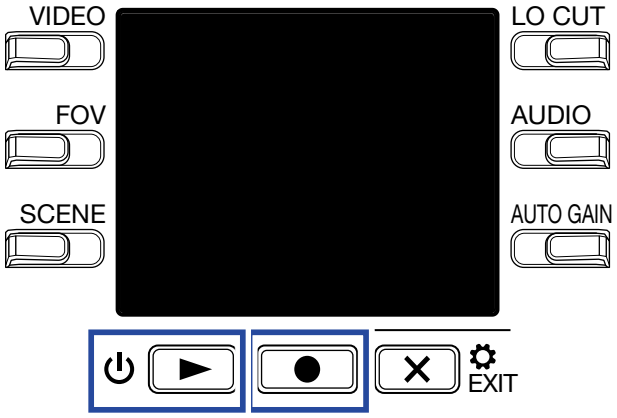
   NOTE
   Executing a firmware update is not possible if the remaining battery power is low.

2. Copy the firmware update file to the root directory on a microSD card.

   The latest firmware update file can be downloaded from www.zoom.co.jp.

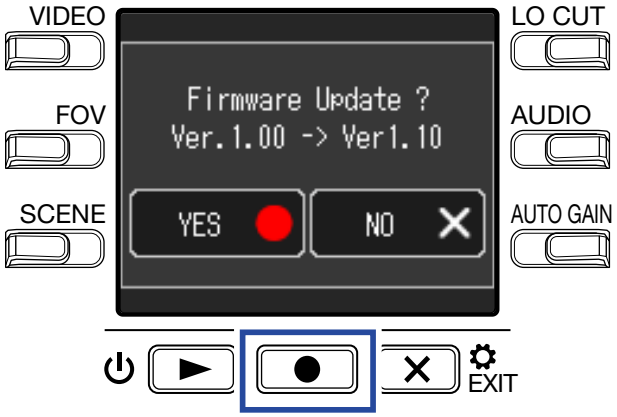
3. Insert the microSD card into the microSD card slot.

4. While pressing ●, press ⏻ ► to turn the power on.



   This opens an update confirmation screen.

5. Press ● to select **Yes** ●.



   This opens a final confirmation screen.

6. Press ◉ to select **Yes** ●.

After updating completes, a notification screen appears.

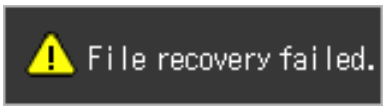
NOTE
Do not turn the power off during a firmware update.

7. Press and hold ⏻ ▶ to turn the power off.

Responding to warning messages

If one of the warning messages below appears, follow the instructions to respond to it.

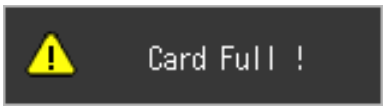
Warning messages that appear during startup

Message	Explanation and response
	The date and time setting were initialized. Reset the time. (→ "Setting the date and time" on page 15)
	Data recording was not completed properly, so the unit tried to recover it but recovery failed.

Warning message that appear when using batteries

Message	Explanation and response
	The remaining battery charge has become low. Replace the batteries with new ones.

Warning messages that appear when the Recording Screen is open

Message	Explanation and response
	No microSD card is loaded. Load a microSD card.
	Recording stopped because the writing speed to the microSD card was insufficient. Use a microSD card that has been formatted by the Q2n-4K and confirmed to work with it. Please check the list of cards that have been confirmed to work on the ZOOM website (www.zoom.co.jp).
	The microSD became full. Delete unneeded data or replace it with a new microSD card.
	The power will turn off because the temperature inside the unit has become high. Wait for the temperature to decrease before using it again.

Warning messages that appear when the Playback Screen is open

Message	Explanation and response
	The file is invalid. Files cannot be played if they were not created by the Q2n-4K or they are invalid because recording did not stop properly.
	The number of files with check marks for deletion exceeded the maximum (999). Reduce the number of checks.
	The file is protected so it could not be deleted. Check the file characteristics on a computer.

Troubleshooting

If you think that the Q2n-4K is operating strangely, check the following items first.

Recording/playback trouble

■ It becomes warm

- The unit and the microSD card might become warm but this is not a malfunction.

■ There is no sound or it is very quiet

- Check the connections with connected devices and their volume settings.
- Confirm that the output volume is not set low.

■ Recorded sound cannot be heard or is very quiet

- Check the recording level setting. (→ “Adjusting recording levels” on page 21)
- If a CD player or other device is connected to an input jack, raise the output level of that device.

■ Recording audio/video is not possible

- Checked the remaining recordable time on the Recording Screen. (→ “Recording Screen overview” on page 16)

■ A “Low Speed Card!” warning appears frequently/Stopping recording takes a very long time

- microSD cards can become worn out. Speed can decrease after repeated writing and erasing.
- Formatting the card with the Q2n-4K might improve this. (→ “Formatting microSD cards” on page 53)
- If formatting a microSD card does not improve this, we recommend replacing the card. Please check the list of cards that have been confirmed to work on the ZOOM website (www.zoom.co.jp).

> **NOTE**
> This is not a guarantee of specific microSD card recording performance for microSD cards that have been confirmed to work.
> This list is provided as a guideline to help find suitable cards.

Specifications

Image sensor		1/2.3" 16 M-pixel CMOS sensor
Lens		F 2.8, 150° FOV
Video format		MPEG-4 AVC/H.264 (MOV)
Video resolutions		4K: 30 p, 25 p, 24 p 1080: 60 p, 50 p, 30 p, 25 p, 24 p 720: 30 p, 25 p
Audio formats		WAV: 96 kHz/24-bit, 48 kHz/24-bit, 44.1 kHz/16-bit
Audio functions		· LO CUT: OFF, 80 Hz, 120 Hz, 160 Hz · AUTO GAIN: OFF, CONCERT, SOLO, MEETING · DELAY: 0.0 F, 0.5 F–10.0 F (only during web camera use) · DIRECT MONITOR ON/OFF (only during USB mic use)
Image functions		· FOV: WIDE · 0 · TELE (5 steps) · SCENE: AUTO, OUTDOOR, SUNSET, NIGHT, CONCERT LIGHT, JAZZ CLUB, DANCE CLUB, MONOCHROME, SEPIA, FILM, X-PROCESS, FLAT
Display		1.77" full-color LCD (160 × 128)
Audio inputs	Mic	Fixed 120° XY stereo mic Maximum sound pressure: 120 dBSPL Input gain: –∞ db – +39 dB
	Line	Input connector: stereo mini jack (supports plug-in power) Input gain: –∞ dB – +39 dB 2 kΩ or higher input impedance Plug-in power (2.5 V) supported
Output connector		Combined headphone/line stereo mini jack HDMI micro Type D
Built-in speaker		300 mW 8 Ω mono speaker
Recording media		microSD / microSDHC / microSDXC (256 GB maximum)
USB		micro USB WEBCAM Class: UVC 1.0 + UAC 1.0 Formats: 720 p WVGA video 48 kHz/16-bit audio CARD READER Class: USB Mass Storage USB MIC Class: UAC 1.0 Format: 44.1 kHz/16-bit Note: card reader and USB mic functions support iOS devices
Power		2 AA batteries : alkaline LR6 (1.5 V), nickel metal hydride HR6 (1.2 V) or lithium FR6 (1.5 V) AC adapter (ZOOM AD-17): DC 5 V/1 A Note: USB bus power supported
Estimated continuous recording time using batteries		See table below
External dimensions		Main unit (maximum dimensions): 58.7 mm (D) × 68.5 mm (W) × 83.0 mm (H)
Weight (main unit only)		124 g

Video resolution	Alkaline LR6 (1.5 V)	Ni-MH HR6 (1.2 V)	Lithium FR6 (1.5 V)
720/30 p	2.0 hours	3.0 hours	6.0 hours
1080/30 p	1.2 hours	2.0 hours	4.0 hours
4K/30 p	0.5 hours	1.0 hours	2.0 hours

Audio quality: 48 kHz/24-bit
- The above values are approximate.
- Continuous battery operation times were determined using in-house testing methods. They will vary greatly according to use conditions.

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